Normal nutrition

Section 1 : case based MCQ

1- 3-week-old baby girl is brought to her pediatrician for check up. She was born at term with a birth weight of 3400 g .Her mother state that the infant is exclusively breast fed, nurses every 2 to 3 hours, and has 6 to 8 wet diapers and 2 to 4 seedy stools daily. At the time of her examination, she weighs 3450 g. Results of the physical examination are normal. Which of the following is the most appropriate next step in the care of this patient?

- A) Continue breast feeding only
- B) Continue breast feeding with supplemental cow's milk formula
- C) Continue breast feeding with supplemental soy formula
- D) Continue breast feeding and add rice cereal to her diet
- E) Discontinue breast feeding and start her on soy formula

2- A family arrives to your clinic for their first newborn. you are counseling the mother on breast feeding . One of the following is contraindication to breast feeding

- A) A newborn screening that is positive for phynylketonurea
- B) A newborn screening that is positive for galactosemia
- C) Maternal history of active untreated tuberculosis
- D) All of the above

3- An 8-week-old boy is brought by his mother to your office for a routine check up. He was delivered at 38 weeks. His mother had an uncomplicated pregnancy with regular prenatal care and daily prenatal vitamins, which she is

currently continuing. He is being exclusively breastfed, and his mother seems to have a balanced diet. Which one of the following nutritional supplements should you recommend for the baby at the present time?

A) Iron

B) Vitamin D

C) Vitamin C

D) Fluoride

E) Calcium

4- A 3- week-old infant is brought for check up, he sleeps 16 hours a day, weighs 3600 gram and take 60 ml of humanized milk four times /day , no vitamin or iron supplementations. He does not take any vaccine yet. Which of the following is the most appropriate first step in the care of this patient?

A) Start vaccination

B) Give vitamin C and iron supplementation

C) Advise the mother regarding the proper amount and frequency of feeds

D) Advise the mother to arouse her infant frequently, as he sleeps much

5- A mother arrives to your clinic for her first baby. you are counseling the mother on breast feeding . one of the following items is appropriate for breast milk promotion

A) Should start early after birth.

B) Demand feeding is the best.

C) Better given without any additional feeds for the 4-6 months of life.

D) Should not be stopped during gastroenteritis of the infant.

E) All of the above.

6- A 6-day -old girl is brought for a routine follow-up visit. The mother is concerned that the baby is not eating enough. The baby drinks humanized milk 60 ml every 2-3 hours in addition to breast feeding. The mother complains that her breasts are full and tender. Which of the following is the correct advise?

A) Reassurance

B) Stop formula feeding

C) Stop breast feeding

D) Stop formula feeding and frequent breast evacuation

7- A mother brings her two- week- old son for follow up. She will be returning to work in one week. she is seeking your advice concerning her infant's nutrition. The best regimen for this mother will be

A) Complementary feeding

B) Supplementary feeding

C) Substitutive feeding

D) Non of the above

8- A 8-month- old infant presenting with gastroenteritis, He is on diet with following contents for the last 5 months: Carbohydrates 55%, fat 40% and protein 5 % with total calories 100 K calorie/kg/day. Which one of the following manifestations would you expect to find.

A) Loss of fat from the abdominal wall.

B) Edema of the dorsum of the feet

C) Broadening of the ends of long bones

E) Non of the above

9- A 6-month- old infant presenting with 1 -day- history of diarrhea 5 motions/day He is on diet with the following contents for the last 4 months: Carbohydrates 50%, fat 35% and protein 15 % with total calories 75 K calorie/kg/day. Which one of the following findings would you expect to find?

A) Hypovolemic shock because of diarrhea.

B) Loss of fat from the abdominal wall and buttock

C) Edema of the dorsum of the feet

E) Increased muscle fat ratio.

10- A family arrives to your clinic for their first newborn. The mother tells you that she is going to return to work and tends to replace breast milk completely with formula. You are counseling the mother about the value of breast milk in preventing enteric infections. One of the following statements is correct.

A) More alkaline stool pH in breastfed infants

B) More acidic pH of the GIT in breast fed infant.

C) Predominance of Bacteroides and Clostridium in the gut of breast fed infants

D) The presence of IgE in breast milk

11- You are examining a pre term newborn in the nursery. You recommend the use of preterm infant formula because

A) Preterm formulas have lower protein and calories than humanized formula.

B) Preterm formulas have higher protein and calories than humanized formula.

C) Preterm formulas have higher lactose and calories than other formulas

D) Preterm formulas have lower lactose and calories than other formulas

12- 1-month- old girl is brought to her pediatrician for check up. The mother is concerned that the baby is not eating enough. the infant is exclusively breast fed, At the time of her examination, her weight is at the 25th percentile. Results of the physical examination are normal. Which of the following is the most appropriate next step in the care of this patient?

A) Continue breast feeding only t and_Follow up the weight of the baby on the growth curve

B) Continue breast feeding with supplemental cow's milk formula

C) Continue breast feeding with supplemental humanized formula

D) Breast milk is insufficient , replace it with formula

13- A mother arrives to your clinic with her 5 -month- old baby who is exclusively breast fed. She wants to learn more about weaning practice , she is asthmatic and her young brother has type 1 diabetes. Which one of the following is the most important to tell her about ?

A) Introducing any new food item should be before breast milk feed.

B) Avoid excessive breast milk after 6 months

C) Avoid introduction of cow milk except after the first year.

D) Avoid the use of spoon in feeding the baby till after the first year

14- A mother brings her 14- month- old boy for follow up, he is exclusively breast fed. Which one of the following investigations might be positive in this case?

A) Microcytic hypochromic anemia

B) Normal serum calcium, low serum phosphorus.

C) Low total serum proteins

D) All of the above.

15- A mother brings her 1- year- old boy for follow up. He is pale, on the 75th percentile for weight, otherwise he is completely normal Which item in the history may explain the condition?

A) Family history of chronic anemia?

B) Family history bleeding disorders

C) Nutritional history with stress on the type of weaning food

D) Neonatal history

■ Section 1: case based MCQ

1	**A**	**6**	**D**	**11**	**B**
2	**D**	**7**	**B**	**12**	**A**
3	**B**	**8**	**B**	**13**	**C**
4	**C**	**9**	**B**	**14**	**D**
5	**E**	**10**	**B**	**15**	**C**

■ Section 2 :

1- **Daily requirement of calories in a 2 months old infant is:**

- A) 40 Cal/Kg.
- B) 100 Cal/Kg.
- C) 60 Cal/Kg.
- D) 150 Cal/Kg.
- E) 80 Cal/Kg.

2- **Daily protein requirement of a baby 4 months old is:**

- A) 1 gram/Kg.
- B) 4 gram/Kg.
- C) 2 gram/Kg.
- D) 0.8 gram/Kg
- E) Non of the above

3- **A four-mothers old infant born at term needs a daily vitamin D of:**

- A) 1500 IU.
- B) 5000 IU
- C) 40 IU
- D) 400-800 IU.
- E) 2000-3000 IU.

4- **Regarding nutritional requirement, which of the following is true**

A) Water requirement in infancy is 80 ml/kg/day

B) Vitamin D requirement is 100 IU/day

C) 50% of calories are supplied from protein

D) Vitamin A requirement is 400 IU/day

E) Non of the above.

5- **The caloric requirement of a 5-months old infant is about:**

A) 70 K Cal/Kg/day.

B) 80 KCal/Kg/day.

C) 90 KCal/Kg/day.

D) 100 KCal/Kg/day.

E) 130 KCal/Kg/day.

6- **Regarding hormones that control lactation which is true:**

A) Prolactin is the hormone responsible for milk production.

B) Oxytocin is the hormone responsible for milk ejection

C) Estrogen is important for duct development

D) Progesterone is responsible for glandular development

E) All of the above.

7- **Regarding Factors that maintain milk flow which is true**

A) Suckling and complete breast emptying is the most important

B) Maternal depression can decrease milk flow

C) Adequate diet and fluid increase milk production

D) Demand feeding must be followed

E) All of the above.

8- **About proper breast feeding, which on of the following is incorrect?**

A) Should start early after birth.

B) Demand feeding is the best.

C) Better given without any additional feeds for the 4-6 months of life.

D) Should not be stopped during gastroenteritis of the infant.

E) Contraindicated during gastroenteritis

9- Advantages of breast feeding include all the following; except:

A) It needs the least effort for preparation of the feed.

B) Decreased incidence of cancer cervix.

C) Emotional satisfaction of the mother.

D) Decreased incidence of infections in the baby.

E) Suckling is associated with rapid post-partum involution of uterus.

10- Colostrum has all of the following properties; except:

A) It contains high amount of IgA antibodies.

B) It has a higher fat content than mature milk.

C) It is produced during the first 3-5 days of lactation

D) It has a higher protein content than mature milk.

E) It has a lower carbohydrate content than mature milk

11- Colostrum is characterized by:

A) A higher lactose content than mature milk.

B) Higher fat content than mature milk.

C) Rich in secretory immunoglobulin A.

D) Higher caloric value than mature milk.

E) None of the above.

12- A newborn in the 1st day of life should be best fed:

A) Glucose 5%.

B) Sugary water.

C) Water

D) Colostrum.

13- The protein in breast milk is:

A) β-lactoglobulin.

B) Lactoferrin .

C) All of the above

D) Lactalbumin.

E) Casein

14- The main protein in breast milk is:

A) Casein.

B) Thyroglobulin.

C) Lactoferrin.

D) Beta lactalbumin.

E) Gamma globulin.

15- Human milk is characterized by all the following; except:

A) A good source of vitamin C.

B) A good source of vitamin B.

C) A rich source of vitamin A

D) Fat content is 3.5 gram %

E) Protein content is 1.25 gm%

16- About breast milk which of the following is true

A) The main carbohydrate source is glucose

B) The clostrum is reach in fat

C) The majority of energy is derived from lipid

D) The majority of protein is easily digested casein

E) Protein content is 3.5 gm %

17- Human milk is characterized by all the following; except:

A) Contains lipase enzyme.
B) A good source of vitamin A.
C) A rich source of vitamin D.
D) Fat content is 3.5 gram %
E) Protein content is 1.25 gm%

18- The following are correct about breast feeding; except:

A) Contraindicated in galactosemia.
B) Contains lysosyme .
C) Protects against allergic diseases.
D) Contains lactoferrin which has a bacterial inhibitory effect.
E) The major immunoglobulin it contains is IgE.

19- Breast milk is richer than cow milk in all the following; except:

A) 1gA.
B) Lactalbumin.
C) Casein.
D) Lactglobulin.
E) Lactose.

20- All of the following are higher in cow's milk; except:

A) Essential fatty acids
B) Protein.
C) Phosphate.
D) Calcium.
E) Sodium.

21- The following are correct about breast feeding except:

A) It protects against allergic diseases.

B) It contains lysosyme that is bacteriostatic against enterobacteria.

C) The major immunoglobulin it contains is 1gE.

D) Contraindicated in galactosemia.

21- The following statements about anti-infective properties of breast milk feeding are true, except:

A) Breast milk is naturally sterile.

B) Contains interferon producing cells

C) Contains "lactoferrin" which is an iron binding protein.

D) Contains antibodies of the IgA class

E) Contains "Bifidus factor" which prevents intestinal colonization & multiplication of Lactobacillus bifidus.

22- Mothers should be advised to start breast-feeding:

A) Immediately after birth.

B) 12 hours after birth.

C) 24 hours after birth.

D) 48 hours after birth.

23- Under-feeding in a breast-fed infant; shows the following; except:

A) Diarrhea.

B) Oliguria

C) Failure to gain weight adequately.

D) The infant is not satisfied after feeding.

E) Sleeping 2-3 hours after feeding

24- Under-feeding in a breast-fed infant; shows

A) Constipation

B) Polyuria.

C) weight gain about 150 gram / week.

D) Sleeping 2-3 hours after feeding.

E) Non of the above

25- All the following indicate adequate breast milk supply; except:

A) The infant appears satisfied and contented after feeding.

B) The infant sleeps about 2 hours after feeding.

C) Adequate gain in weight.

D) A negative let-down reflex.

E) Normal stools in number and consistency.

26- The following drugs are contraindicated during breast feeding except

A) Tetracyclin

B) Narcotics

C) Cephalosporins

D) Estrogen

27- Drugs contraindicated in a breast feeding mother include all; except:

A) Anti-thyroid drugs.

B) Radioactive diagnostic drugs.

C) Cytotoxic drugs.

D) Ergot preparation.

E) Paracetamol

28- Breast milk engorgement is characterized by all the following; except:

A) It is a painful condition.
B) It is accentuated by inadequate suckling.
C) It may complicate feeding from one breast
D) Commonly present on 2nd-3rd days of life.
E) Regular suckling and complete evacuation of breast decrease its incidence .

29- All the following are true regarding breast milk jaundice; except:

A) There is hyperbilirubinemia of the indirect type.
B) It can present with each pregnancy.
C) It is caused by an inhibitor of alkaline phosphatase enzyme in breast milk.
D) It can present in the 5th or 6th day of life
E) The condition has good prognosis.

30- Regarding problems that may occur during lactation which is true

A) Nipple soreness is due to improper breast evacuation
B) Breast engorgement is due to improper attachment to the nipple
C) Breast milk jaundice present in the first 3 days after birth
D) Breast pump has no role in the management of breast engorgement
E) Non of the above

31- Breast feeding by the mother is contraindicated in all; except:

A) Phenylketonuria.
B) Hereditary lactose intolerance
C) Galactosemia.
D) Diarrhea
E) Maternal use of anti-thyroid or cytotoxic drugs.

32- Breast milk is contraindicated in:

A) Preterm babies.

B) Gastroenteritis.

C) Phenylketonuria.

D) All of the above.

33- An absolute contraindication of breast feeding is:

A) Mastitis.

B) Acute illness of the infant.

C) Breast milk jaundice.

D) Phenylketonuria.

34- Contraindications to breast-milk feeding include all of the following except

A) Maternal TB.

B) .Galactossemia.

C) Maternal hepatitis.

D) Premature newborn.

35- A baby born to a hepatitis-B surface antigen (HBsAg) positive mother:

A) Is at higher risk of infection if his mother is hepatitis-B antigen positive.

B) Can be breast fed without ant precoutions

C) Should not be breast fed.

D) Should receive prednisone 2 mg/kg/day.

E) Should receive hepatitis-B vaccine and immune globulin

36- A newborn to a tuberculous mother should receive:

A) Breast feeding.

B) INH chemoprophylaxis.

C) BCG strain resistant to INH.

D) All of the above.

37- Regarding infant formulas which is true

A) Standard humanized formulas are of choice in feeding infants after 6 months

B) Lactose free , soy based formula ,lactose is replaced by galactose

C) Elemental formulas can not be given in infants who are allergic to cow milk protein

D) Preterm formulas have lower protein and calories than humanized formula

E) Non of the above

38- Faulty weaning may be complicated by:

A) Malnutrition.

B) Gastroenteritis.

C) Allergic disorders caused by some food ingredients.

D) Rickets

E) All of the above.

39- Weaning should start at the age of:

A) Two months.

B) Four to six months.

C) Eighteen months.

D) Two years.

Model answers

■ Section 1: case based MCQ

1	**A**	**6**	**D**	**11**	**B**

2	**D**	**7**	**B**	**12**	**A**
3	**B**	**8**	**B**	**13**	**C**
4	**C**	**9**	**B**	**14**	**D**
5	**E**	**10**	**B**	**15**	**C**

■ Section 2:

1	**B**	**16**	**C**	**31**	**D**
2	**C**	**17**	**C**	**32**	**C**
3	**D**	**18**	**E**	**33**	**D**
4	**E**	**19**	**C**	**34**	**D**
5	**D**	**20**	**A**	**35**	**E**
6	**E**	**21**	**C**	**36**	**B**
7	**E**	**22**	**A**	**37**	**E**
8	**E**	**23**	**A**	**38**	**E**
9	**B**	**24**	**A**	**39**	**B**
10	**B**	**25**	**D**		
11	**C**	**26**	**C**		
12	**D**	**27**	**E**		
13	**C**	**28**	**D**		
14	**D**	**29**	**C**		
15	**A**	**30**	**E**		

Nutritional disorders

■ Section 1: case based MCQ

1- 14 months old boy presenting with recurrent chest infections, he is exclusively breast fed with no history of

intake of any vitamins or minerals. Examination revealed a large head, distended abdomen. Which of the following investigations is recommended?

A) Thyroid profile
B) Calcium, phosphorus and alkaline phosphatase.
C) Bronchoscopy
D) Ascitic fluid tap

2- 18 months –old- boy presenting with delayed walking , he is exclusively breast fed with no history of intake of any vitamins or minerals. Examination revealed, distended abdomen and wrist thickening. Which of the following investigations would be correct in this case?

A) Low serum calcium, phosphorus and alkaline phosphatase
B) Normal Calcium, phosphorus and alkaline phosphatase.
C) Normal serum phosphorus, low serum calcium and high alkaline phosphatase
D) Normal serum calcium, low serum phosphorus and high alkaline phosphatase enzyme

3- 16 months –old- boy presenting with delayed walking, delayed dentition and recurrent chest infections , he is exclusively breast fed. He received several medications and injections that not remembered by the mother. Recently he developed constipation, vomiting and polyuria. What is the most probable diagnosis

A) Rickets with hypervitaminosis D
B) Renal rickets
C) Hepatic ricket
D) Cerebral palsy

4- 18 months –old- boy who is exclusively breast fed presenting with convulsions. He has rectal Temperature : 37.7 ,B.P 100/ 70 , anterior fontanelle 1 finger not bulging. Which one of the following investigations might explain the cause of convulsions

A) CSF examination
B) Blood picture
C) Serum calcium
D) CT brain

5- A 9-month- old infant presenting with lower edema, He is on diet with following contents for the last 5 months: Carbohydrates 55%, fat 40% and protein 5 % with total calories 100 K calorie/kg/day. Which one of the following investigations is correct.

A) Low serum protein, high serum sodium
B) Lowe serum protein High serum potassium
C) High gamma globulins , low serum sodium
E) Low alpha and beta globulins, with high serum sodium

6- A 5 -yeas- old child come complaining of headache. On examination, his height is below the 5th percentile , blood pressure is 140/ 100. respiratory rate 40/m. He is pall and the ends of his long bones looks abnormal. Which of the following investigations might be positive in this case?

A) Abdominal sonar shows bilateral atrophic kidneys
B) Chest x ray shows pneumonia
C) Blood gas analysis show respiratory acidosis
D) X ray long bones shows fractures

7- This is a 7 month old boy who is not growing well. His birth weight was 3.5 kg and his current weight is 4.5 kg

(less than the 5th percentile). Mother states that he drinks 60 ml of humanized of infant formula every 4 hours, she also feeds him a small amount of rice cereal since he was 5 months old. Which of the following you are expecting to find in examination?

A) Loss of fat from the abdomen only

B) Edema of the dorsum of the foot only

C) Ascites

D) Both A and B

8- 14 months -old boy- who is exclusively breast fed, brought by his mother because of delayed walking, he received multiple injections for treatment of this condition. History revealed recent development of vomiting, constipation, and polyuria . One of following investigations might be positive in this case.

A) Serum calcium 8 mg%

B) Serum calcium 10 mg%

C) Serum phosphorus 5 mg%

D) Plain X ray abdomen showing multiple radio opaque lesions

9- A 9-month- old infant presenting with edema on the dorsum of the the feet. He is on diet mainly carbohydrates. Examination reveals an enlarged liver 6 cm below the costal margin. Investigations to reveal the cause of hepatomegaly is

A) Liver enzymes: ALT and AST

B) Serum protein and lipids

C) Upper GIT endoscopy

E) Doppler to visualize the portal area

10- 14 –month- old boy presenting with chronic diarrhea and recurrent chest infections since birth. On examination he has a large head, broad wrist, deformed thoracic cage and distended abdomen. the most likely diagnosis is

A) Vitamin D deficiency rickets

B) Cystic fibrosis

C) Chronic hemolytic anemia

D) Cow milk allergy.

11- 18 -month - old boy who is exclusively breast fed presenting with convulsions and contraction of his finger and toes. He is not feverish . The best action to control convulsions in this patient is A) IV diazepam

B) IV phenobarbitone

C) IM calcium gluconate

D) IV calcium gluconate.

12- A 7 month old boy presenting with gastroenteritis. He is on diet with total calories 75 k cal/kg/day. Examination reveals weight less than the 5th percentile and a temperature 36 ºC. He has generalized fat loss and muscle wasting . the first step in the management of this patient is:

A) Nasogastric tube placement and start feeding.

B) IV fluids to correct dehydration

C) Adequate clothing and external heating

D) IV albumin

13- A 6 - month - old boy presenting with generalized loss of fat and muscle wasting His birth weight was 3 kg

and his current weight is 4 kg . The total caloric need to correct the case is

A) 800 k calories/day

B) 600 K calories/day

C) 800 K calories/kg/day

D) 400 K calories/day

14- A17 month old baby has been irritable over the past month. she now refuses to walk and seems to have tenderness in both of her legs. she has a low grade fever and she has petechiae on her skin and mucous membranes. she has a small cut that has not healed well. Manifestations are due to deficiency of vitamin

A) C

B) A

C) D

D) E

15- A 3 –year- old baby whose diet consists mostly of cheese puffs and cola begins to have problem walking et night, complaining that he cannot see well. In addition, his skin has become dry and scaly

A) A

B) C

C) D

D) E

■ Section 2

1- **Features of Marasmus include:**

- A) Hypothermia.
- B) Hypoglycemia.
- C) Loss of fat.
- D) Caloric requirements are 150 calories/kg/day.
- E) All of the above.

2- **Causes of death in marasmus include all the following; except:**

- A) Hypoglycemia.
- B) Renal failure.
- C) .Infections.
- D) Hypothermia.
- E) Gastroenteritis and dehydration

3- **About 3rd degree marasmus which of the following is not true**

- A) Loss of subcutaneous fat over the abdomen, buttocks and cheeks.
- B) Muscles are atrophied.
- C) Pitting edema.
- D) Hypothermia.
- E) Increased susceptibility to infection.

4- Caloric requirements of a marasmic infant is about:

- A) 150 cal/day.
- B) 200 cal/day.
- C) 110 cal/day.
- D) 100 cal/day .
- E) None of the above.

5- Kwashiorkor is characterized by all the following; except:

- A) Marked muscle atrophy.
- B) Fatty infiltration of the liver.
- C) Lactose intolerance
- D) Skin manifestations in the form of dermatitis and dermatosis.
- E) The body weight is usually 60-80% of the expected for age, with edema.

6- Management of Kwashiorkor may include all of the following, except:

- A) Blood transfusion.
- B) Total caloric restriction.
- C) Antibiotics.
- D) High protein intake.
- E) Vitamins

7- Kwashiorkor is characterized by each of the following; except:

- A) A history of inadequate protein intake with relatively adequate calories.
- B) Fatty liver.
- C) Pitting edema.
- D) Hyperglycemia.
- E) Infections

8- Skin changes in kwashiorkor result from deficiency of:

- A) Essential fatty acids.
- B) Sulfur containing amino acids.
- C) Vitamin A.
- D) All of the above.
- E) Vitamin C.

9- Which of the following conditions may cause hypoglycemia?

- A) Marasmus.
- B) Infant of diabetic mother.
- C) Kwashiorkor.
- D) Marasmic kwashiorkor.
- E) All of the above

10- All are true about kwashiorkor except:

- A) Age of presentation is 6 months to 2 years.
- B) Edema is the most constant findings.
- C) Lethargy and apathy are constant features.
- D) Hyperglycemia due to increase carbohydrate intake
- E) Fatty infiltration of liver

11- Kwashiorkor is characterized by all the following; except:

- A) Mental apathy.
- B) Skin ulceration.

- C) Hypervitaminosis A.
- D) Fatty liver.
- E) Infections.

12- All are true about kwashiorkor except:

- A) Age of presentation is over 5 years.
- B) Hair changes are inconsistent features.
- C) Lethargy and apathy are early features.
- D) Hypothermia is a major cause of death.
- E) Hypoglycemia is common

13- Edema of kwashiorkor is caused by:

- A) Decreased serum albumin below 2.5 gm/dl.
- B) Increased capillary permeability.
- C) Increased aldosterone level.
- D) All of the above.
- E) None of the above.

14- Biochemical bnormalities in Kwashiorkor include all of the following except:

- A) Hypernatremia.
- B) Hypomagnesemia.
- C) Hypocalcemia.
- D) None of the above.
- E) Hypoalbuminemia.

15- All the following are true about kwashiorkor; except:

- A) May follow persistent diarrhea.
- B) Lactose intolerance is common.
- C) There is fatty infiltration of the liver.
- D) Muscle bulk is usually normal.
- E) May be complicated by skin infections.

16- **Features of kwashiorkor include all the following; except:**

A) Pitting edema of lower limbs.
B) Mental apathy, growth retardation & edema.
C) Hair changes and dermatosis.
D) Splenomegaly.
E) Fatty infiltration of the liver.

17- **Constant features in kwashiorkor include all the following; except:**

A) Edema.
B) Diminished muscle/fat ratio.
C) Mental changes.
D) Growth failure.
E) Skin changes.

18- **The most important cause of edema in kwashiorkor is:**

A) Hypo-albuminemia due to decreased liver synthesis.
B) Hypo-albuminemia due to increased albumin breakdown.
C) Hypo-albuminemia due to increased intestinal loss of albumin.
D) Hypo-albuminemia due to increased urinary loss of albumin.
E) None of the above.

19- **The term marasmic kwashiorkor means:**

A) Body weight is under 60% of the expected with edema.
B) Body weight is under 10 % of the expected with edema.
C) Body weight is under 80% of the expected without edema.
D) Body weight is under 60% of the expected without edema.

20- **Anemia in protein energy malnutrition may be related to all the following; except:**

A) Iron deficiency.

B) Protein deficiency.

C) Folic acid deficiency.

D) Infections and toxemia.

E) Deficient synthesis of G-6-PD enzyme.

21- Biochemical abnormalities in kwashiorkor include all the following; except:

A) Dilutional hyponatremia

B) Hypocalcemia.

C) Hypoalbuminemia.

D) Hyperkalemia.

E) None of the above.

22- All the following may be associated with kwashiorkor; except:

A) Anemia.

B) Anguar stomatits.

C) Dermatosis

D) Lactose intolerance.

E) Liver cirrhosis.

23- Causes of death in Protein-Calorie malnutrition include all; except:

A) Diarrhea.

B) Hypothermia.

C) Hypertension.

D) Infection.

E) Hypoglycemia.

24- Management of Protein energy malnutrition may include

A) Blood transfusion.

B) High protein intake.
C) Antibiotics.
D) Vitamin supplementation.
E) All of the above.

25- Causes of diarrhea in kwashiorkor include any of the following; except:

A) Infection.
B) Abnormal intestinal motility.
C) Lactose intolerance.
D) Digestive enzyme deficiency.
E) Atrophy of intestinal villi.

26- Considering nutritional dwarfism, all the following; except:

A) Weight is appropriate for height.
B) Weight is less than expected for age.
C) Height is less than expected for age.
D) Is usually caused by mild to moderate chronic under-nutrition.
E) Severely affected children are indistinguishable from marasmus.

27- Which of the following is considered a rachitogenic diet?

A) Prolonged breast milk without supplementation of Vit-D.
B) Cow's milk .
C) Diet rich in carbohydrate
D) Cereals rich in phytates and phosphates.
E) All of the above.

28- Regarding vitamin-D deficiency rickets, which is true

A) Fe deficiency anemia my be an associated condition.
B) Bone fractures are possible complication.
C) Dentition is usually delayed.

D) Serum Ca is usually normal while serum phosphate is increased.

E) ALL of the above

29- A false statement concerning vitamin D is?

A) It is a fat soluble vitamin.

B) It is only acquired from animal food.

C) The kidney is active in its metabolism.

D) Rich sources include egg yolk, liver and cod liver oil.

E) Breast milk are poor sources for Vit-D.

30- The normal daily requirement of vitamin D is:

A) 100-400 IU/day.

B) 400-800 IU/day.

C) 800-1000 IU/day.

D) 1000-2000 IU/day.

E) 5000 IU/day.

31- In cases with nutritional rickets:

A) Serum Calcium is normal and phosphorus is low.

B) Serum Calcium is low and phosphorus is normal.

C) Serum Calcium is high and phosphorus is low.

D) Serum Calcium is high and phosphorus is normal.

E) Serum Calcium is high and phosphorus is high.

32- In vitamin D deficiency, serum calcium is maintained normal by:

A) Increased thyroid hormone secretion.

B) Decreased renal excretion of phosphate.

C) Increased parathyroid hormone secretion.

D) Increased calcitonin secretion.

E) Non of the above

33- Latent tetany is usually observed when serum calcium is

A) More than 11 mg/dL.
B) Less than 7 gm/dL.
C) 9-11 mg/dL.
D) Non of the above.
E) 7-9 mg/dL.

34- Tetany is expected to occur in:

A) Excessive vomiting.
B) Hypomagnesemia.
C) Advanced cases of rickets
D) As a complication of shock therapy in rickets.
E) All of the above.

35- In nutritional rickets, the following findings are correct, except:

A) Serum calcium is 10 mg/dl.
B) Broad epiphysis.
C) Serum phosphorus is 6.5 mg/dl.
D) Serum alkaline phosphatase is 600 IU/L.
E) Rossary beads

36- About Vitamin D which of the following is not true:

A) It can be synthesized inside the body.
B) The kidney has a role in its metabolism.
C) It requires bile for absorption in the GIT.
D) Cereals contain adequate amount of vitamin D.
E) Liver is responsible for 25 hydroxylation step.

37- In renal osteodystrophy(renal glomerular rickets)there is:

A) Resistance to therapy with vitamin D.

B) ↑ Serum phosphate.
C) Metabolic acidosis
D) All of the above.
E) None of the above.

38- The following deformities may occurred in rickets; except:

A) Genu varum.
B) Cubitus vulgus.
C) Harrison sulcus.
D) Genu valgum.
E) Pigeon chest

39- Regarding vitamin-D deficiency rickets, which is true :

A) Rossary beads is late sign.
B) Alkaline phosphatase enzyme is normal
C) Urinary phosphorus is increased.
D) Ca level is maintained in the normal range by 2ry hyperthroidism.
E) Early closure of the anterior fontanel occurs.

40- Clinical manifestations of rickets include all the following; except:

A) Bow-legs.
B) Loss of skin elasticity.
C) Frontal bossing.
D) Delayed motor milestones.
E) Green-stick fractures.

41- Delayed eruption of teeth is usually not associated with:

A) Rickets.
B) Oral moniliasis.
C) Cretinism.

D) Under-nutrition.
E) Mongolism.

42- In vitamin D def. rickets one statement of the following is correct:

A) Craniotabes is a late sign.
B) Hypercalcemia occurs early before appearance of clinical manifestations.
C) Alkaline phosphatase level is reduced.
D) Chest infections are uncommon.
E) Serum phosphorus is low.

43- In vitamin-D def. rickets, one statement of the following is correct:

A) Rossary beads is a late sign.
B) Hypercalcemia occurs early
C) Alkaline phosphatase level is reduced.
D) Chest infections are uncommon.
E) Serum phosphorus is low.

44- About nutritional rickets which of the following is true :

A**)** Plasma alkaline phosphatase is low reflecting poor bone growth
B) Failure of calcium absorption from GIT results in decreased parathormone level
C) Full antirachitic activity of vitamin D is dependent on normal adrenal function
D) 25 hydroxylation of vitamin D occurs in the liver.
E) Non of the above

45- Hypervitaminosis-D is characterized by all the following; except:

A) Metastatic calcifications.
B) Generalized hypotonia.
C) X-ray may show renal stones.
D) Increased urine calcium.
E) Increased serum calcium.

46- Symptoms of hypervitaminosis D include all of the following; except:

A) Polydepsia and polyuria.
B) Metastatic calcification.
C) Irritability.
D) None of the above.
E) Hypocalcemia.

47- Symptoms of hypervitaminosis D include all of the following; except:

A) Polydepsia and polyuria.
B) Metastatic calcification.
C) Irritability.
D) Hypocalcemia.

48- Manifestations of hypervitaminosis-D include:

A) Anorexia, vomiting, constipation
B) Metastatic calcifications.
C) Polyuria.
D) All of the above.
E) None of the above.

49- Manifestations of hyper-vitaminosis-D include all the following;except:

A) Anorexia, vomiting and constipation.
B) Polydipsia and polyuria.
C) Metastatic calcifications.

D) Increased intracranial tension.

50- Manifestations suggestive of hyper-vitaminosis-D include:

A) Metastatic calcifications.

B) Renal stones.

C) Polyuria, polydipsia and dehydration.

D) Anorexia, vomiting, constipation and weight loss.

E) All of the above

51- Regarding non nutritional rickets which is true

A) It responds to vitamin D in a dose of 3000 IU/day

B) It responds to vitamin D in a dose of 5000 IU/day

C) In Lignac syndrome, there is rickets, mental retardation and blindness

D) It is rare with renal tubular acidosis

E) Non of the above

52- A normal newborn can be put to the maternal breast:

A) Immediately after delivery.

B) After at least 2 hours after delivery.

C) After at least 6 hours after delivery.

D) After the first day of life.

E) Non of the above

Model answers

■ Section 1: case based MCQ

1	**B**	**6**	**A**	**11**	**D**

2	D	7	D	12	C
3	A	8	D	13	A
4	C	9	B	14	A
5	C	10	B	15	A

■ Section 2

1	E	19	A	37	D
2	B	20	E	38	B
3	C	21	D	39	C
4	E	22	E	40	B
5	E	23	C	41	B
6	B	24	E	42	E
7	D	25	B	43	E
8	C	26	E	44	D
9	E	27	E	45	B
10	D	82	A	46	E
11	C	29	B	47	D
12	A	30	B	48	D
13	D	31	A	49	D
14	A	32	C	50	E
15	D	33	E	51	E
16	D	34	E	52	A
17	E	35	C		
18	E	36	D		